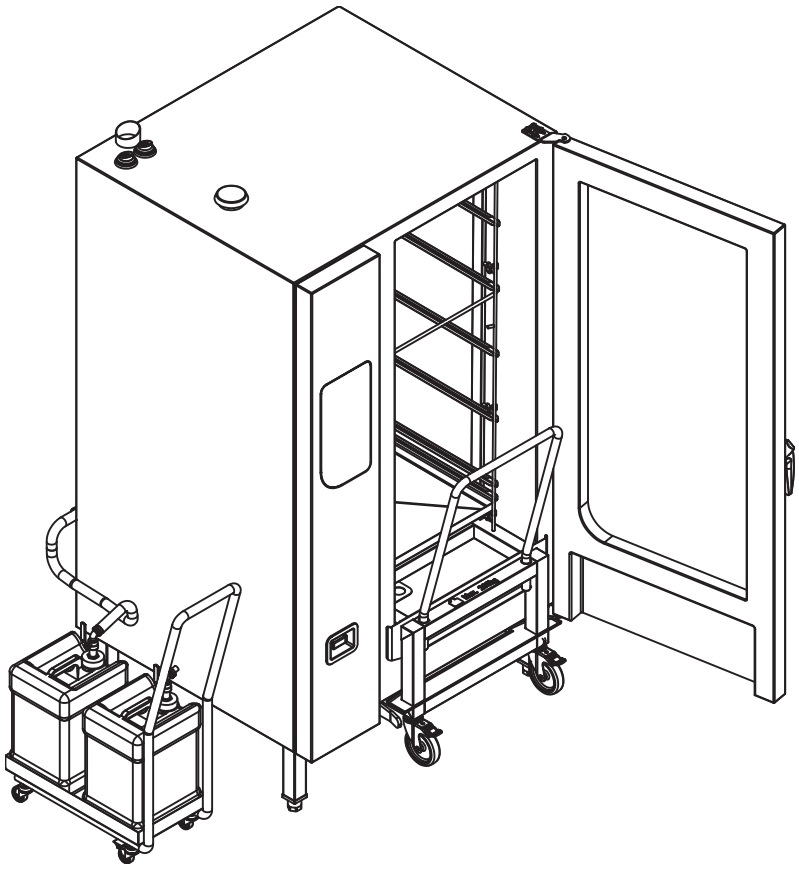
HENNY PENNY
Engineered to Last

Read the Operating instructions before starting maintenance

FlexFusion® GAS PLATINUM COMBI incl. grease collection



Maintenance instructions

Model

FPG-**221**

FM08-901D • 7/23/2024

FM08-901D en-US

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1 Introduction

1.1 About this manual

The maintenance instructions contain information:

- About the safe maintenance of the unit.

Observe the following notes and adhere to them:

- Read the maintenance instructions completely before starting maintenance.
- Read the Operating instructions before operating the unit.

Target group The target group for the maintenance instructions is trained specialist personnel who are entrusted with the service, maintenance and operation of the unit.

Figures All figures in this manual are intended as examples. Discrepancies can arise between this and the actual unit.

Part replacement The customer is informed about the need to replace parts and his consent is obtained. Only original spare parts are used.

1.2 Personnel qualification

Explanation of qualification

Skilled personnel	• A skilled person is someone who, on the basis of their technical training, knowledge and experience as well as familiarity with the applicable standards, can assess the assigned work and recognize possible dangers.
Expert	• An expert is a person, who has sufficient professional knowledge on the basis of his training and experience, and who is sufficiently familiar with the relevant regulations, guidelines and rules covering the particular technology, that he can assess the safe operating condition of the system. • The person must be named in writing by the specialist company concerned, and the remit of his authorized tasks must also be stated.

Type of activity	Qualification
Electrical connection	• Electrician • Specialized training • Employee of the responsible technical company
Gas connection	• Gas expert • Specialized training • Employee, who is named in writing, of the specialist company concerned

2 Maintenance Intervals

2.1 Required Maintenance

The manufacturer does not prescribe any mandatory maintenance of the unit.

2.2 Recommended Maintenance

The manufacturer recommends maintenance of the unit in accordance with the following table.

After 12 months, after 6 months under heavy workload (more than 12 hours per day)
• Overall state of the unit • Operating unit • Power supply • Electrical components • Water connection • Waste water connection

3 Notes On Safety

The maintenance personnel must be familiar with regional regulations and observe them.

The maintenance personnel must observe the safety information in these maintenance instructions.

The maintenance personnel must also observe the "Safety information" chapter in the installation instructions and operating instructions of the unit.

Organizational measures

Risk of property damage and personal injury from lack of organizational measures

- Inform the operators present prior to starting the maintenance work.
- Discuss how to respond to an emergency prior to starting the maintenance work.
- Use equipment and protective gear suitable for the activity.

Electrical connection

Danger of electric shock from live components.

- Prior to working on the electrical system, switch off the unit, disconnect the electrical system from the mains and prevent power from being switched on again. Check to ensure the system is dead.
- Use only insulated tools.
- Do not put a unit with damaged operating elements into service.

Gas connection

Risk of explosion and fire from improper connection

- Observe applicable regional regulations of the gas utility.
- Ensure that only a tradesman licensed by the gas supplier connects the unit to the gas supply.
- Prior to working on the gas system, switch off the unit, close the gas supply from the gas system and secure it against being reopened. When bleeding air or degassing, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.
- Observe the information on the nameplate and *Gas type* additional shield.
- Check for leaks.
- When working on the gas system and units in buildings, ensure that a hazardous gas-air mixture cannot form in the rooms.

Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

Risk of fire from combustion gases and hot surfaces

- Install the unit such that there is no contact with combustible surfaces.
- Maintain an adequate distance from grease filters on ventilation systems.

Improper maintenance

Risk of physical damage and personal injury from improper maintenance

- Service the unit only as specified in these maintenance instructions.
- Use only original spare parts.

Concluding activities

Risk of damage to property and personal injury from improper connections

- Reactivate all safety devices and check that they function properly.

4 Description Of Unit

4.1 Flexi Fusion Device Overview

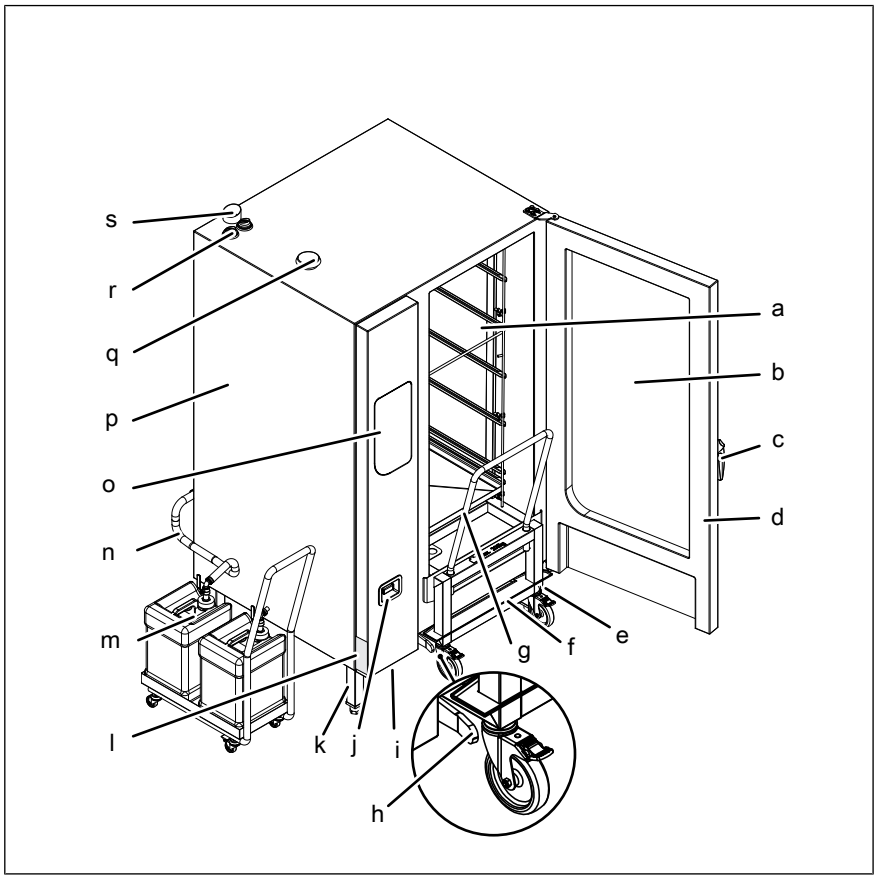

Image: Device with tray trolley and Grease Collection

a	Tray rack	k	Unit leg
b	Insulating disk	l	Nameplate
c	Door handle	m	Grease container
d	Cooking chamber door	n	Grease drain hose
e	Guide rail (right)	o	Operating unit
f	Tray trolley	p	Housing
g	Handle bar	q	Air inlet nozzle
h	Guide rail (left)	r	Waste gas connection
i	USB port (covered)	s	Steam outlet nozzle
j	hand shower		

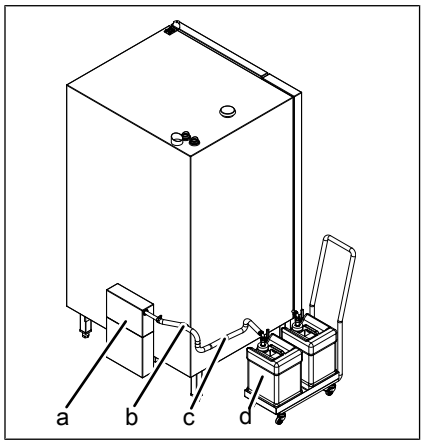

Image: Rear of device

a	Grease pump cover	c	Grease drain hose
b	Guide sleeve	d	Grease container

4.1.1 Tray Trolley

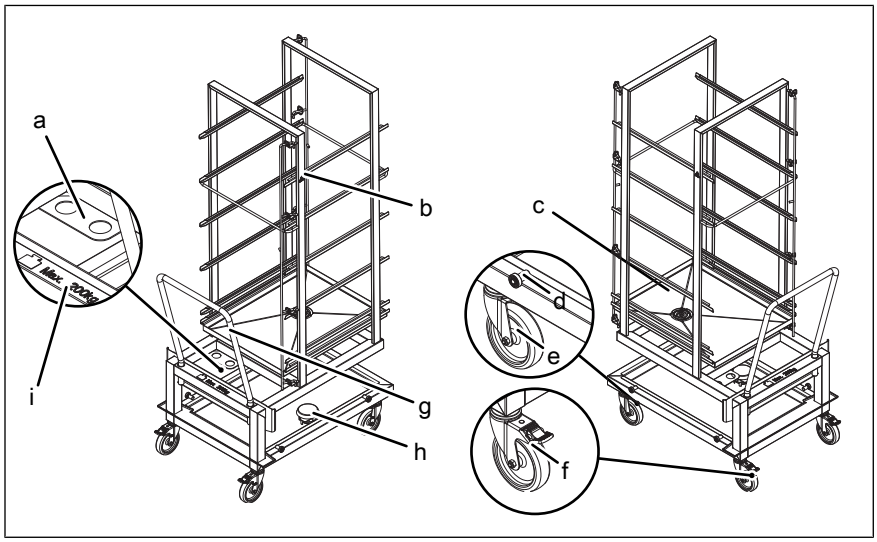

Image: Tray trolley with retraction system *EasyIn*

a	Holder cleaning cartridge	f	Caster with brake
b	Slide-in frame (tray rack)	g	Handle bar
c	Grease drip tray	h	Pan with quick release
d	Sliding caster (ball bearing) right/ left	i	Warning
e	Caster		

4.1.2 Cooking Chamber

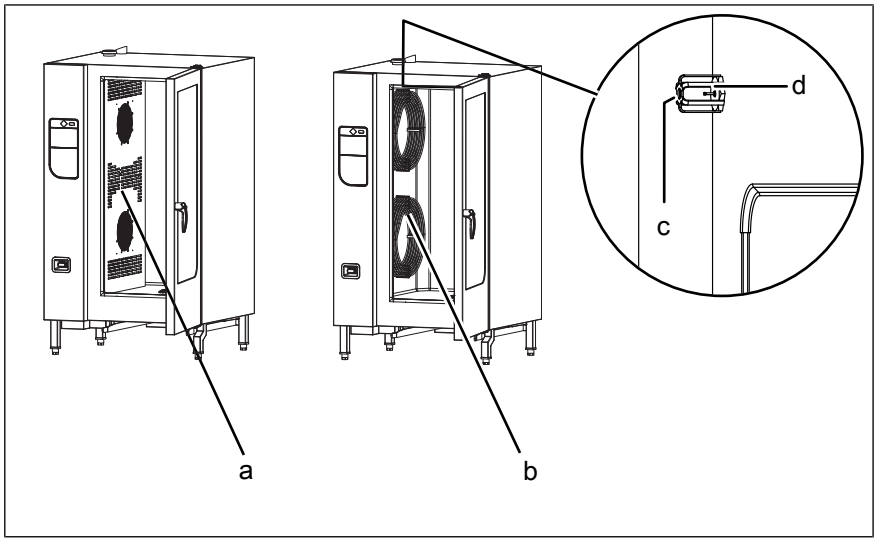

Image: Cooking chamber

a Air diverter
b Heat exchanger
c Cooking chamber sensors
d Protective guard

The two cooking chamber sensors are located on the rear right inner side in the cooking chamber.

4.1.3 Air Inlet

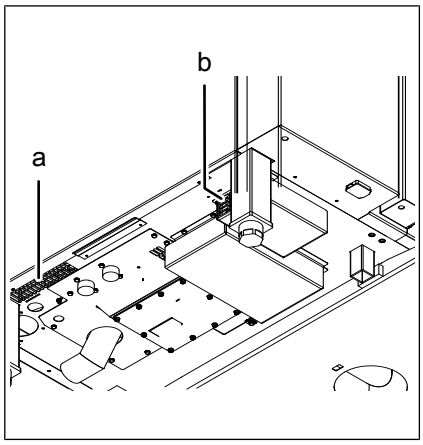

Image: Supply air openings

a Ventilation grille
b Ventilation shaft

4.1.4 Gas Screens

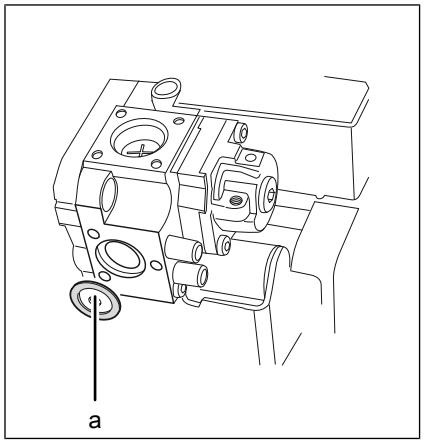

Image: Gas fitting with gas orifice

a Gas orifice with gasket

4.2 Unit and Connection Data

Unit size	215	221
Emissions		
Noise level (db(A))	< 70	
Steam output (g/h (oz/h))	8400 (296,3)	16140 (569,31)
Steam output (m³/h (cuft/h))	14,2 (501,1)	27,4 (966,9)
Latent heat loss (W)	5706	10962
Sensible heat loss (W)	4755	9135
Operating environment		
Temperature (°C (°F))	5 (41) — 40 (104)	
Relative humidity (%) non-condensing	95	
Cooking chamber light		
Illuminant	Halogen oven lamp 20 W 12 V G4	
Energy efficiency class	C	
Electrical connection		
Protective system	IPX5	
Type of connection	1NPE / AC 50/60 Hz	
Voltage (V)	**120**	
Connected load (kW)	1.0	
Recommended fuse (A)	16	
Type of connection	1NPE / AC 50/60 Hz, 2PE / AC 50/60 Hz	

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Unit size	215	221
Softened drinking water connection		
Water type	Softened drinking water, cold	
Residual hardness $CaCO_3$ (mmol/l (ppm))	< 1 (100 ppm)	
Chloride Cl (mg/l)	< 100	
Iron Fe (mg/l)	< 0.2	
Connection pressure (kPa (psi))	200 (29) — 600 (87)	
Diameter (")	R 3/4	
Drinking water connection		
Water type	Drinking water, cold	
Carbonate hardness $CaCO_3$ (mmol/l (ppm))	< 4 (400 ppm)	
Connection pressure (kPa (psi))	200 (29) — 600 (87)	
Diameter (")	R 3/4	
Water consumption, steaming		
Softened drinking water (l/h (gal/h))	36 (9,51)	48 (12,68)
Water consumption, Combi steaming		
Softened drinking water (l/h (gal/h))	8 (2,11)	10,6 (2,8)
Water consumption, WaveClean cleaning program		
Softened drinking water (l (gal))	3 l (0,79)	
Drinking water (l (gal))	32 l (8,45)	
Waste water connection		
Waste water type	Dirty water, maximum 80 °C (176 °F)	
Diameter (mm (in))	50 (1,97)	
Maximum length (m (ft))	1 (3,3) with downward slope of at least 5% or 3°	
Temperature resistance (°C (°F))	95 (203)	
Maximum flow rate (l/min (gal/min))	10 (2,64)	
Exhaust air connection		
Diameter (mm (in))	73 (2,87)	73 (2,87)
Maximum length (m (ft))	2,5 (8,2)	
Temperature resistance (°C (°F))	180 (356)	

Unit size	215	221
Gas connection		
Rated heat input (kW)	36	52
Gas type	The gas type, for which the unit is set, is indicated on the gas type supplemental label.	
Diameter according to EN10226-1 (")	R 3/4	
Diameter (US version only) (")	3/4 NPT	
Connection pressure (hPa (lbf/sqft)) Natural gas 2H, 2E, 2L, 2LL *	20 (41,8)	
Connection pressure (hPa (lbf/sqft)) Liquid gas 3B/P, 3P *	50 (104,4)	
Natural gas E/H, G20 (m³/h (cuft/h)) **	3,74 (132)	5,4 (190,6)
Liquefied gas P G31 (kg/h (lb/h))	2,8 (6,17)	4,04 (8,91)
Combustion air (m³/h (cuft/h)) **	45 (1587,9)	65 (2293,7)
Supply air and exhaust gas routing		
required conveying pressure B_{13BS} (Pa)	0 — 5	
Exhaust gas temperature B_{13BS} (°C (°F))	205 (401)	250 (482)
Exhaust gas mass flow B_{13BS} (kg/h (lb/h))	99 (218,3)	142 (313,11)
Diameter (mm (in))	155 (6,1) x 1 (0,04)	155 (6,1) x 1 (0,04)
* Information is country-specific and applies in Germany; for further information, see "Checking the connection pressure" ** Data valid at 15 °C (59 °F) and 1013,25 hPa (2115,34 lbf/sqft)		

Transformer voltage

Type of connection	1NPE / AC 50/60 Hz			
Voltage range (V)	**100 — 120**			
Transformer	**T1**		**T2 / T3**	
Wire identification or color	blue	red	blue	red
Voltage measured (V)	Voltage at transformer (V)			
90 — 100	0	110	-20	120
101 — 110	0	110	0	120
111 — 120	0	120	0	120

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Gas connection pressure

Gas type	Dynamic pressure (inch WC (mbar))	Dynamic pressure range (inch WC (mbar))
Natural gas A	8 (20)	6.8 - 10 (17 - 25)
LP Gas B/P gas E	12 (30)	17 - 23 (42.5 - 57.5)

Gas blower speed

Unit size	Gas blower speed (rpm)	
	High output (High)	Low output (Low)
221	6700	2800

Exhaust gas values

Gas type	CO_2 at high power (high)	CO_2 at low power (low)	CO (ppm) range	CO (ppm) optimal
Natural gas	8.6 — 9.6 %	0.5 - 1.2% lower than at high setting	0 — 1000	< 100
Liquefied petroleum gas (LP)	10.0 — 11.0 %			

Gas orifice size, natural gas

	E/H	LL/L	L	K	13A	Gas A	NGN, NG174
Test gas	G20	G25	G25	G25.3	G21	G20	G20,
Wobbe index (kWh/m^3)*	15.0	12.4	12.4	12.5	16.1	15.0	15.0
Range Wobbe index (kWh/m^3)*	12.0 — 16.1	10.1 — 13.1	11.5 — 13.1	12.7 — 13.3	14.5 — 16.3	12.0 — 16.1	12.0 — 16.1
Connection pressure (hPa (lbf/sqft))	20 (41,8)	20 (41,8)	25 (52,2)	25 (52,2)	20 (41,8)	20 (41,8)	20 (41,8)
Primary air gap (mm (in))	30 (1,18) — 50 (1,97)						
CO content (ppm) ***	< 1000 (optimum < 100)						
Unit size	**Aperture size** (1/100 (mm (in)))						
215	565 (22,24)	650 (25,59)	650 (25,59)	650 (25,59)	N/A**	590 (23,23)	565 (22,24)
221	565 (22,24)	640 (25,2)	640 (25,2)	640 (25,2)	N/A**	580 (22,83)	565 (22,24)

* upper Wobbe index, data apply at 0 °C (32 °F) and 1013,25 hPa (2115,34 lbf/sqft)

** For information on manually setting the rated heat input, (see "Adjusting the basic gas setting").

*** in undiluted exhaust gas

Gas orifice size, liquefied gas

	B/P	B/P	P	LP gas B/P	LP gas B/P gas E	LP gas B/P FL50, BP29, PX275
Test gas	G30/G31	G30/G31	G31	G30/G31	G30/G31	G30/G31,
Wobbe index (kWh/m^3)*	25.7 / 22.5	25.7 / 22.5	22.5	23.5	25.7 / 22.5	25.7 / 22.5
Range Wobbe index (kWh/m^3)*	21.4 — 25.7	21.4 — 25.7	21.4 — 22.5	21.4 — 25.7	21.4 — 25.7	21.4 — 25.7
Connection pressure (hPa (lbf/sqft))	50 (104,4)	30 (62,6)	37 (77,2)	28 (58,5)	30 (62,6)	50 (104,4)
Primary air gap (mm (in))	30 (1,18) — 50 (1,97)					
CO content (ppm)**	< 1000 (optimum < 100)					
Unit size	**Aperture size** (1/100 (mm (in)))					
215	420 (16,54)	420 (16,54)	420 (16,54)	420 (16,54)	420 (16,54)	420 (16,54)
221	400 (15,75)	400 (15,75)	400 (15,75)	400 (15,75)	400 (15,75)	400 (15,75)
* upper Wobbe index, data apply at 0 °C (32 °F) and 1013,25 hPa (2115,34 lbf/sqft) ** in undiluted exhaust gas						

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5 Special Tools, Testing and Measuring Equipment

The following tools and measuring instruments are needed for maintenance:

- Pressure gauge, measuring accuracy at least 0.1 mbar
- Exhaust gas measuring device (for CO^2 measurements)
- Voltmeter
- Amp meter
- Hex key, size 5 mm
- Bubble level
- Personal protective equipment
- Measuring cup with scale, capacity approx. 1 litre
- Floor jack (for aligning the device)
- USB stick with current software

6 Entering The Order Data and Nameplate Information

I. Henny Penny Service Provider Information			
Company:		Company Phone:	
Address:		City:	
State/Province:		Postal Code:	
Email Address:			

II. Store Information			
Store ID Number:		Store Phone:	
Address:		City:	
State/Province:		Postal Code:	
Email Address:			

The nameplate contains important data and information regarding the unit.

It is attached to the outside of the unit's housing. A second nameplate is located inside the unit behind the operating panel.

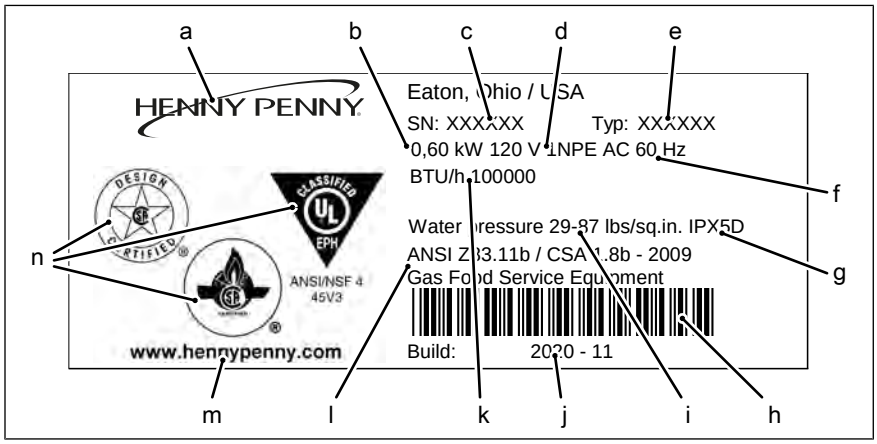

Image: Data plate

a Manufacturer
b Electrical connected load
c Serial number
d Type of connection
e Type number
f Frequency
g Protective system
h Barcode
i Connection pressure for water
j Year of manufacture
k Gas connection value
l Test criteria
m Manufacturer's web address
n Certificate

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Checking The Data Plate				
Test Criteria		**Remarks / values**	**Yes**	**No**
• Does the unit have a data plate attached, and is it legible??			☐	☐
If No Check if the data plate is present inside the device. It either the data plate is not legible or not present, then: 1. Open the Service menu. 2. Display unit information. 3. Serial number and type designation are available.				

General information		Yes	No
Enter serial number (c) SN: _____	Enter type (e) Type: _____		

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7 Opening And Closing the Housing

⚠ DANGER

Risk of Personal Injury and Property Damage from Electric Shock

- Before working on the unit's housing, ensure that the unit is not connected to an electrical outlet.
- Do not operate the unit with the housing open.

⚠ CAUTION

Risk of Injury from Sharp Edges

- Wear protective gloves.

NOTICE

Risk of Property Damage from Damage to The Lines

- Remove and attach housing components carefully.

7.1 Removing and Attaching the Side Wall

7.1.1 Removing the Side Wall

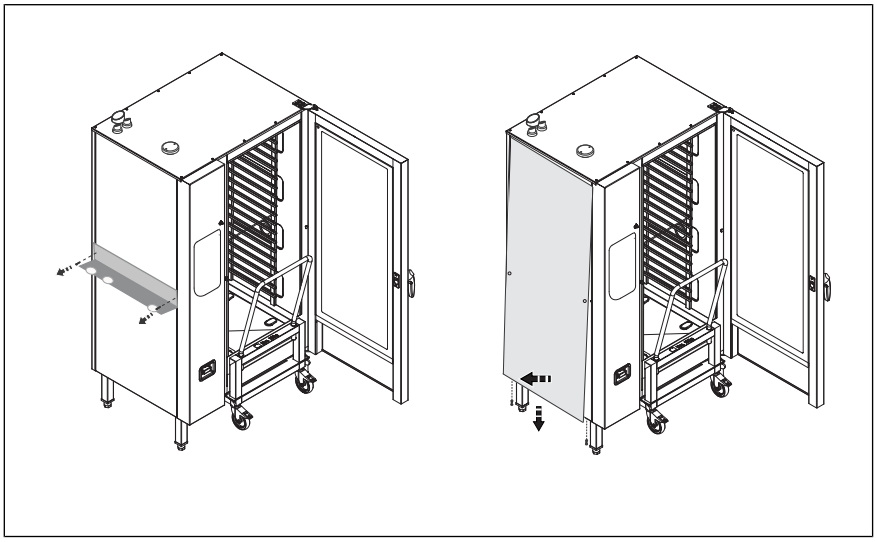


Image: Removing the side wall

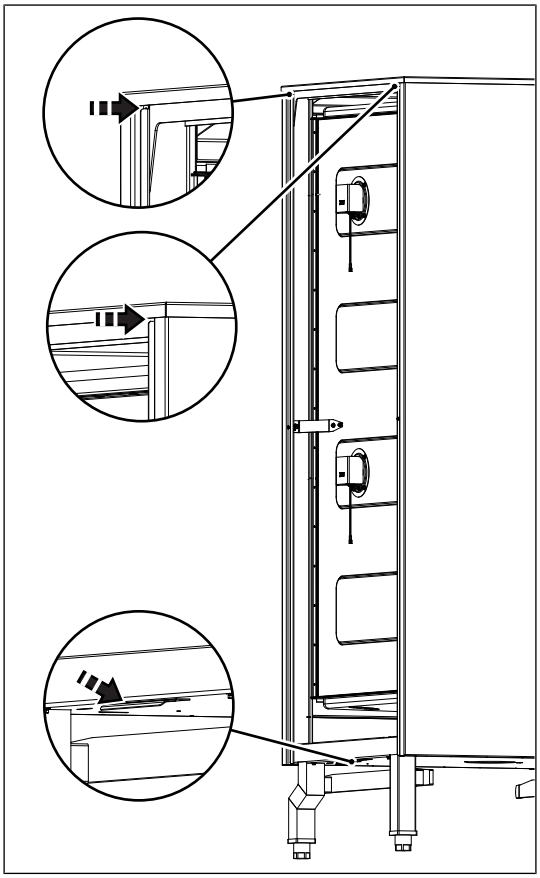
1. Remove the screws on the trolley handle holder using a flat-head screwdriver.
2. Remove trolley handle holder.
3. Remove the screws at the bottom of the side panel using a 7 mm hexagon screwdriver.
4. Pull the bottom edge of the side wall forward.
5. Remove the side wall.

7.1.2 Attaching the Side Wall

NOTICE

Risk of property damage from leaky housing

- Check gaskets when attaching the housing parts.
- Replace damaged gaskets.



1. Insert top edge of side wall.
2. Slide the side panel into the guide at the bottom.
3. Insert the screws in the middle of the side panel and screw them on loosely.

   ↳ if necessary, lift the side wall slightly.
4. Tighten the screws under the unit.
5. Tighten the screws in the center.
6. Check that the side wall is in contact with the unit on all sides.

7.2 Opening and Closing the Control Panel

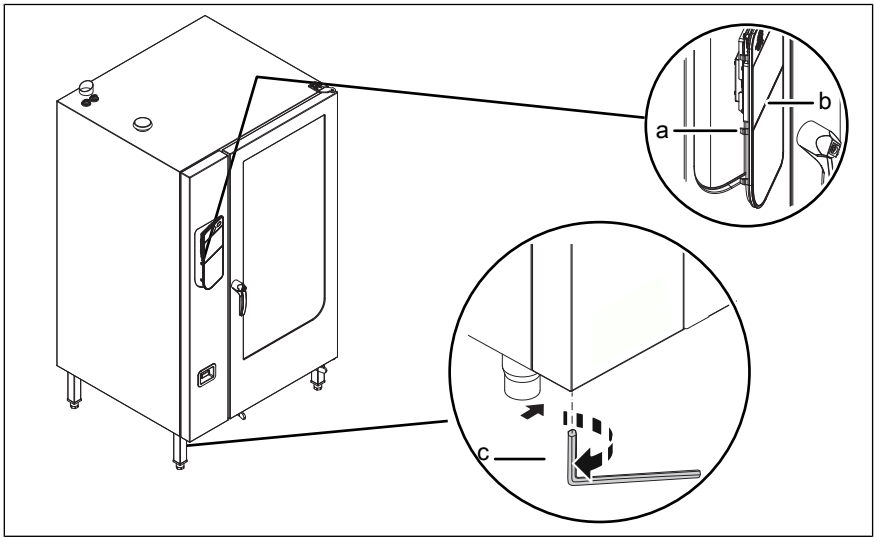


Image: Opening the control panel

a Lock (cam)
b Operating panel
c Hex key (5 mm)

7.2.1 Opening the Control Panel

1. Insert hex key into screw and turn clockwise.
   ↳ The operating panel is now unlocked.
   ↳ The operating panel pops up automatically.
2. Withdraw the hex key.

7.2.2 Closing the Control Panel

1. Press and hold operating panel on the left.
   ↳ Repeat as many times as necessary.
   ↳ The operating panel snaps in audibly.

↳ The operating panel is secured against unauthorized opening.

8 Performing Maintenance

Overview and order of tasks
Prior to working on unit: Verify the unit is cooled down, drained, and voltage-free
1. Inquire about complaints from the operator.
2. Check all existing tray trolleys
3. Check cooking chamber door and gasket
4. Check the overall state of the unit
5. Check housing.
6. Check the cooking chamber.
7. Check cooking chamber door.
8. Check water connection.
9. Check gas connection.
10. Check flexible hose lines.
11. Check wastewater connection.
12. Check the condition of the electrical components.
13. Check components.
13. Check gas components.
14. Check software.
15. Check power supply.
17. Check the controller.
18. Clean and check grease collection on combi steamer.
19. Restore the unit to full-operation.
20. Document the result of the maintenance.

⚠ DANGER

Risk of Personal Injury and Property Damage from Electric Shock

- Inspection and adjustment work that require the unit be connected to an electrical source and the housing panel be open, must be performed by an electrically trained and certified technician

8.1 Complaints From the Operator

Ask the operator if there are any issues with the unit			
Test Criteria	**Remarks / values**	**Yes**	**No**
• There are no known issues with the unit.		☐	☐
If No Please provide a description of the complaint and what actions were taken to resolve it here.			

8.2 Check All Existing Tray Trolleys

Check external damage to the tray trolley with drive-in system			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Tray trolley appear OK externally. – Handlebar is connected and fully functional. • Ball bearings are in good condition. – Ball bearings are easy to move. • Casters are in good condition. – Casters are firmly screwed on. – Casters are easy to move.		☐ ☐ ☐	☐ ☐ ☐
If No Change ball bearing.			
If No Change the caster.			

Check pan with quick release			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Quick release is tight when locked and releases easily when opened.		☐	☐
If no • Repair quick release. • If necessary, replace gasket.			

Check alignment of the tray trolley with retraction system			
Test Criteria	**Remarks / values**	**Yes**	**No**
• The tray trolley is in a horizontal position and securely fastened to the ball bearings. – Tray trolley is aligned. – Floor is level within 8 mm (0,31 in). – Tray trolley can move in and out without hitting anything.		☐	☐
If No Align the tray trolley.			

8.2.1 Align Combi Steamer

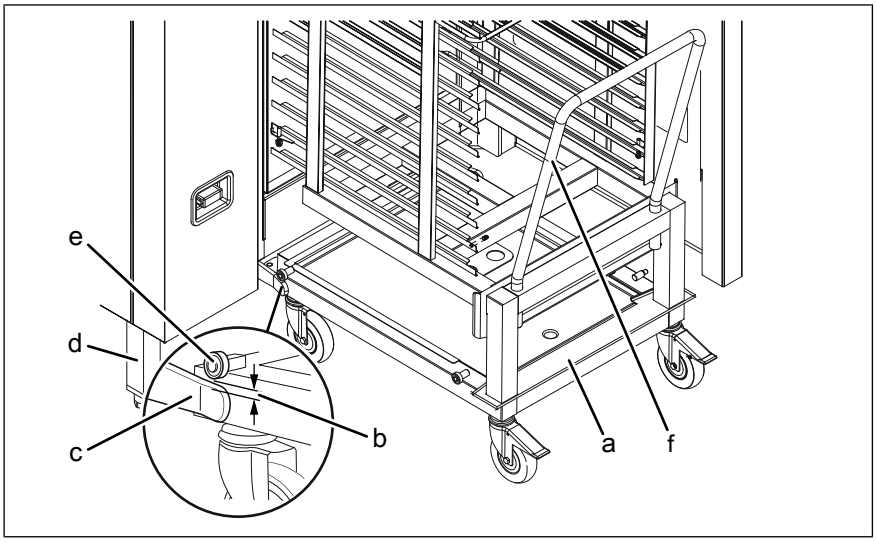


Image: Aligning tray trolley with insertion system

a	Tray trolley	d	Unit leg
b	Distance	e	Ball bearing
c	Guide rail	f	Handlebar

1. Level the unit by either screwing the unit legs in or out.
2. Open the cooking chamber door.
3. Place the tray trolley against the guide rails.
4. Screw the unit legs in or out until the ball bearings (e) are the same distance as (b) which should be 1 mm (0,04 in) - 5 mm (0,2 in) above the guide rail (c).
5. Push tray trolley back into place.
6. Level the guide rails.
7. Insert tray trolley into the unit until it is in place, then check the alignment.

   ↳ The support rollers of the inserted tray trolley should no longer have floor contact.
8. Remove the handlebar (f).
9. Close the cooking chamber door.

8.3 Check Cooking Chamber Door and Gasket

Check external damage to cooking chamber door			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Window is fine (no cracks). • Window is properly glued.		☐ ☐	☐ ☐
If No Inform the operator.			
If No Manufacturer's recommendation: Change cooking chamber door.			

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Replace the seal/gasket on the cooking chamber (must replace regardless of condition)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• The cooking chamber seal was replaced.		☐	☐

Replace the seal/gasket on the cooking chamber door (must replace regardless of condition)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• The profile seal on the cooking chamber door was replaced.		☐	☐

8.3.1 Check Preheat Bridge

Check Preheat bridge			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Visual inspection:Preheat bridge is not bent. • Operate the preheat bridge manually. • Preheat bridge is free to move and springs back to the starting position.		☐ ☐ ☐	☐ ☐ ☐
If No Clean area of preheat strip. Continues to fail? Change the preheat strip.			

8.3.2 Door Latch

Check the door latch on the inside of the cooking chamber door			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Door latch cover is not damaged.		☐	☐
If No Replace cover cap.			

Check the door latch on the inside of the cooking chamber door			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Door latch is firmly screwed to the door.		☐	☐
If No Tighten screws. Add missing screws.			

Check the function of door latch			
Test Criteria	**Remarks / values**	**Yes**	**No**
• The door latch and catch are operational).		☐	☐
If No Change door latch.			

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8.4 Checking the Overall State of the Unit

8.4.1 Operating Panel

Check operating panel			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Operating panel fully closes.		☐	☐
If No Check whether the operating panel closes properly.			
If No Repair broken latching lugs of the control panel with Service Kit (PN MM10034594).			

8.4.2 Supply Air Electronics

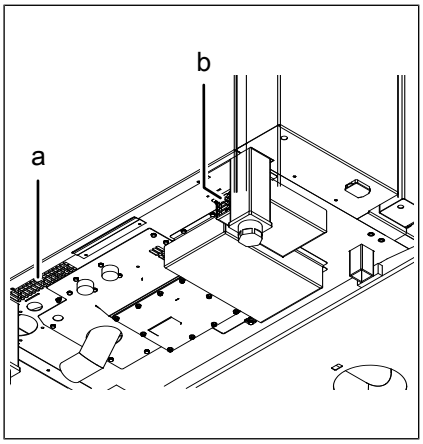

Image: Supply air openings

a Ventilation grille
b Ventilation shaft

Check the supply air to the electronics			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Did you clean the supply air inlet?		☐	☐

8.5 Check Housing

Check unit spacers			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Spacers are in place and have contact with the wall.		☐	☐

Check hand shower			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Hand shower is not leaking and works properly		☐	☐

Check hand shower			
Test Criteria	**Remarks / values**	**Yes**	**No**
If No Change hand shower.			

Check hose reel and hose			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Hose is free of cracks and works properly		☐	☐
If No Replace hose reel.			

Check steam diverter			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Steam diverter is present on top of the unit.		☐	☐

8.6 Check Cooking Chamber

8.6.1 Supply Air Supply Cooking Chamber

Check the air supply to the cooking chamber and check air supply to lift magnet			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Supply air opening on the top of the unit is free (air flow is not restricted or obstructed).		☐	☐

8.6.2 Cooking chamber

Check the cooking chamber for contamination			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Cooking chamber is free of burnt-on deposits.		☐	☐
If No Inform the operator they will need to manually clean the oven. *Please attach pictures to the warranty claim.*			

Check the cooking chamber for limescale residues			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Cooking chamber is free of limescale residues.		☐	☐
If No Inform the operator they will need to manually clean the oven. *Please attach pictures to the warranty claim.*			

Check drain screen			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Drain screen is present and screwed to the drain?		☐	☐

Check drain screen			
Test Criteria	**Remarks / values**	**Yes**	**No**
If No Mount drain screen.			

NOTICE

Material damage due to missing drain screen

Operating the device without drain screen may cause damage to the device.

- Only operate the device with the drain screen screwed on.

8.6.3 Lighting

Check the lighting of the cooking chamber			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Lighting cooking chamber works.		☐	☐
If No Replace bulb.			

8.6.4 Internal Core Temperature Sensor

Check internal core temperature sensor for damage			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Core temperature sensor is not bent or damaged.		☐	☐
If No Change the core temperature sensor.			

8.6.5 Cooking Chamber Sensor and Protective Guard

⚠ CAUTION

Overheating of the unit can cause the unit to catch fire!

Deposits on the temperature sensor can cause the sensor to give false readings and will impact the overall cooking results.

- Only operate unit with a clean temperature sensor.

  ⇨ FPG-221 devices have two temperature sensors.

- Clean the temperature sensor and the protective guard.

Check the cooking chamber sensor and protective guard for contamination			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Neither protective guard or cooking chamber sensor are dirty or calcified.		☐	☐
If No Clean the cooking chamber sensor and protective guard.			

Check cooking chamber sensor and protective guard for damage			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Protective guard is not bent or damaged. • Cooking chamber is not damaged and is bent slightly upwards		☐ ☐	☐ ☐
If No Replace protective guard. Replace cooking chamber sensor.			

8.6.6 Heat Exchanger, Fan Wheel and Water Inlet

Check heat exchanger for deposits			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Heat exchanger is free of lime and carbon residues.		☐	☐
If No Clean heat exchanger with plastic spatula. **CAUTION! Do not use metal brush or metal spatula.**			

Check fan wheel for deposits			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Fan wheel is free of limescale residues.		☐	☐
If No Decalcify the device.			

Check water inlet in the cooking chamber for limescale residues			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Water inlet is free of limescale residues.		☐	☐
If No Decalcify or replace water inlet pipe.			

8.7 Check Water Connection

Checking the flexible hose line on the unit			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Flexible hose line is tight (no deposits or corrosion).		☐	☐
If No Change flexible conduit.			

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8.8 Check Gas Connection

Check gas connection line				
Test Criteria		**Remarks / values**	**Yes**	**No**
• Firm fit with no damage, creases, or exposure to external heat sources.			☐	☐
If No Inform the operator: The device must not be operated in a defective condition. Do not carry out any further work. Commission or plan repair work.				

Check external exhaust hood				
Test Criteria		**Remarks / values**	**Yes**	**No**
• External exhaust hood is operational.			☐	☐
If No Inform store manager.				

8.9 Check Flexible Hose Lines

Check the flexible hose line in the unit			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Clamps are screwed on tightly.		☐	☐
If No Tighten screws or replace clamp.			

Check tightness			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Hoses or flexible conduits are dry with no visible traces of moisture or corrosion.		☐	☐
If No Change hose. If replacement is not possible immediately, take the unit out of service.			

8.10 Check Wastewater Connection

Check the waste water connection on the unit			
Test Criteria	**Remarks / values**	**Yes**	**No**
• On-site wastewater connection to the unit is tight (no deposits or corrosion) and dispensing into the drain.		☐	☐
If No Repair wastewater connection.			

8.11 Checking The Condition of The Electrical Components

⚠ DANGER

Risk of personal injury and property damage from electric shock

- Before working on the unit, ensure that the unit has been disconnected from the power supply.

Action
• Disconnect unit from power.
• Open the left side of the housing (see "Opening and closing the housing").

Check the unit for water residues			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Device is free from moisture.		☐	☐
If No Troubleshoot and replace parts as necessary. If cause cannot be stopped immediately, take unit out of operation. *Please provide remarks here and attach pictures to warranty claim.*			

Check control board cable			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Wire insulation and connection wires are undamaged (not brittle, swollen, or scorched).		☐	☐

Check contactor			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Contactor is externally OK (not brittle, damaged, or charred) and screw connections are tight.		☐	☐

Inspecting the permanent connection for visible damage			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Electrical connection line is installed correctly, and wire insulation is undamaged (not brittle or scorched)		☐	☐

Check electrical contacts - Carry out inspection of wiring harness (cable and contacts)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Contacts are free of scorch marks.		☐	☐
If No Troubleshoot and replace parts as necessary. *Please provide remarks here and attach pictures to warranty claim.*			

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8.12 Check Components

Checking fan (service level / relay test K11)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• All fans work properly when the cooking process is active.		☐	☐
If No Troubleshoot according to service manual.			

Check lift magnet air inlet flap (service level / relay test K08)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Lift magnet works perfectly.		☐	☐
If No Troubleshoot according to service manual. Inform operator.			

Check the steam injection unit (see Service level / Relay test K18)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Humidification unit works perfectly.		☐	☐
If No Troubleshoot according to service manual.			

Check solenoid valve vapour elimination (service level / relay test K04)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Solenoid valve works perfectly.		☐	☐
If No Troubleshoot according to service manual. Inform operator.			

Check siphon pump (service level / relay test K05)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Siphon pump works perfectly.		☐	☐
If No Troubleshoot according to service manual. Inform operator.			

Check pump circulation (service level / relay test K17)			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Pump circulation works properly.		☐	☐
If No Troubleshoot according to service manual. Inform operator.			

Check motor cooking chamber for noise			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Motor cooking chamber runs with minimal to no noise.		☐	☐
If no • Check fan wheel for imbalance. • Recommendation of the manufacturer: Change motor and fan wheel.			

8.13 Check Gas Components

Action
• Switch on the ventilation system.
• Open the gas inlet.
• Switch on the device. • In case of two devices next to each other - switch on both devices.

Checking for leaktightness outside the unit			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Gas-carrying parts tight (see "Checking tightness outside the device").		☐	☐
If No See “Checking tightness outside the device” and troubleshoot.			

Check the resistance of the glow electrodes ATTENTION! Wait at least 15 minutes after operation before performing the measurement.			
Test Criteria	**Remarks / values**	**Yes**	**No**
Both upper and lower burner • The electrical resistance of the glow electrode is between 1 to 10 Ω.		☐	☐
If No Replace glow electrode.			

Gas type	Dynamic pressure (inch WC (mbar))	Dynamic pressure range (inch WC (mbar))
Natural gas A	8 (20)	6.8 - 10 (17 - 25)
LP Gas B/P gas E	12 (30)	10 - 14 (25 - 35)

Gas connection	
• With which type of gas is the device operated?	
☐ natural gas E/H, G20, 8 inch WC (20 mbar)	☐ liquid gas P, G31, 12 inch WC (30 mbar)

INFORMATION

Ensure additional combi ovens, bakery ovens, heating system and ALL other equipment connected to the gas supply are on AND HEATING while checking gas pressure.

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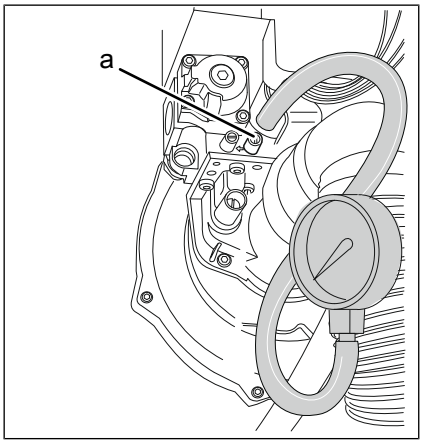
Gas connection	Yes	No
 Connection pressure OK (right side port on gas valve "a")? • Is the connection pressure (dynamic pressure) OK at "High" power? (See "Checking the connection pressure" in the installation instructions). • If there are multiple units installed in one location, all other units in addition to the unit being checked must run on maximum power. Connection pressure (dynamic pressure): _____	☐	☐
If No Inform store manager.		

CO_2 and CO test upper burner	
High • Exhaust gas values at full load "High" okay? (See chapter "Checking exhaust gas values at partial load" in the installation instructions)	
Measured CO_2: _____ Vol % Measured CO: _____ ppm	Set CO_2: _____ Vol % Set CO: _____ ppm
Low • Exhaust gas values at partial load "Low" okay? (See chapter "Checking exhaust gas values at partial load" in the installation instructions)	
Measured CO_2: _____ Vol % Measured CO: _____ ppm	Set CO_2: _____ Vol % Set CO: _____ ppm

CO_2 and CO test bottom burner	
High • Exhaust gas values at full load "High" okay? (See chapter "Checking exhaust gas values at partial load" in the installation instructions)	
Measured CO_2: _____ Vol % Measured CO: _____ ppm	Set CO_2: _____ Vol % Set CO: _____ ppm
Low • Exhaust gas values at partial load "Low" okay? (See chapter "Checking exhaust gas values at partial load" in the installation instructions)	
Measured CO_2: _____ Vol % Measured CO: _____ ppm	Set CO_2: _____ Vol % Set CO: _____ ppm

Checking for leaktightness inside the unit	Yes	No
• Are the gas-conducting parts inside the unit leak-free?	☐	☐
If No Troubleshoot and replace parts as necessary. *Please provide remarks here and attach pictures to warranty claim.*		

8.14 Check Software

INFORMATION

New software version may fix bugs and include feature enhancements.

Software	Yes	No
Software version on the device : _____		
Is the manufacturer's current software version installed on the device?	☐	☐
If no Update software on the device Software version after update: _____		

8.15 Checking The Power Supply

NOTICE

Risk of property damage from using wrong wires

When servicing, only use wires with silicone insulation.

Check supply voltage	
Type of connection	**1NPE / AC 50/60 Hz, 2PE / AC 50/60 Hz, 120V**
Test Criteria	**Actual value (V)**
• Measure supply voltage.	_____

Action
• Close the unit (see "Opening and closing the unit").

⚠ DANGER

Risk of Personal Injury and Property Damage from Electric Shock

- Inspection and adjustment work that require the unit be connected to an electrical source and the housing panel be open, must be performed by an electrically trained and certified technician

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8.16 Checking The Controller

8.16.1 Check Date and Time

Note The unit is ready for use prior to setting the date and time

1. Plug the unit into an electrical source.
2. Power on the device.
3. Set the date and time.
4. Switch the unit off and then back on.
5. Check date and time.

   ↳ If necessary: Replace buffer battery.

Check date and time			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Date and time are current.		☐	☐
If No Set date and time.			

8.16.2 Are There Any Current Error Messages?

Note The unit is ready for use prior to reviewing for error messages

1. Plug the unit into an electrical source.
2. Power on the device.
3. No error message appears in the display:

   ↳ Device is ready to be put into service.
4. An error message appears in the display:

   ↳ Perform troubleshooting according to service instructions.

   ↳ Fix error.
5. Power off the unit.

Current error messages			
Test Criteria	**Remarks / values**	**Yes**	**No**
• No error messages were displayed.		☐	☐

INFORMATION

Maintenance only possible to a limited extent.

8.17 Clean and Check Grease Collection on Combi Steamer

8.17.1 Clean Grease Collection System

Note Verify cooking program has ended

→ Detach the grease drain hose from the grease collector.
→ Connect grease drain hose to existing water hose.
→ Flush the system for approx. one minute.
↳ Cleaning is complete.
→ Disconnect the water hose from the grease drain hose.

Clean grease collection system			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Grease collection system has been cleaned.		☐	☐
If No Clean the grease collection system.			

8.17.2 Function Test Grease Pump

→ Detach the grease drain hose from the grease collector.
→ Mount the backflush fitting on the grease drain hose.
→ Open the cooking chamber door.
→ Remove trolley.
→ Spray water into the cooking chamber with the hand shower for at least 30 seconds.
→ Pull up the relay test in the service menu.
→ Activate relay K13. The grease pump should turn on.
↳ Water / grease is pumped into the collection container = pump system in order.
↳ Water / grease is not pumped into the collection container = carry out troubleshooting.

Tap "K 13" to exit.

Check grease pump			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Water / grease is pumped into the collection container.		☐	☐
If No Troubleshoot.			

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8.17.3 Function Test Automatic Flushing

Prior to testing Detach the grease drain hose from the grease collector.

→ Mount the backflush fitting on the grease drain hose.
→ Open the cooking chamber door.
→ Remove tray trolley
→ Open the relay test in the service menu.
→ Activate relay K14.
↳ Solenoid valve K41 for flushing is turned on.
→ After approx. 30 seconds, additionally activate relay K13.
↳ Water is pumped into the collection tank = solenoid valve OK.
↳ Water and occasional lumps of grease are pumped into the collection container = clean the grease drainage system. Then repeat the test.
↳ Water is not pumped into the collection tank = carry out troubleshooting.
→ Tap "K 13" and "K14" to exit.

Check automatic flushing			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Display solenoid valve K41 shows green when activated.		☐	☐
• Water / grease is pumped into the collection container.		☐	☐
If No To either test criteria, troubleshoot.			

8.18 Restoring The Unit To Operability

Action
• Restore the unit to its operational state.

Final cleaning		**Yes**	**No**
Unit heated and rinsed?		☐	☐
If No Heat and rinse unit.			

Handing over the unit			
Test Criteria	**Remarks / values**	**Yes**	**No**
• Unit put back into service?		☐	☐
If No Please explain.			

Notes and remarks

9 Maintenance Notes

The following work was carried out as part of the maintenance	
Component	**Reason for the exchange**

Comissioning was performed by:			
Company	Technician	Place, date	Signature

		Store manager	Signature

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